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A 5-YEAR GRANT FROM THE FORD FOUNDATION SUPPORTS THE CENTER AT THE UNIVERSITY OF WISCONSIN. THE MISSION OF THE CENTER IS TO (1) ESTABLISH A NATIONAL DEPOSITORY OF MATERIALS RELATING TO VOCATIONAL AND TECHNICAL EDUCATION AND AN INFORMATION RETRIEVAL AND DISSEMINATION CENTER, (2) CONDUCT RESEARCH AND DEVELOPMENT IN THE FIELD, (3) SUPPORT GRADUATE STUDY AND INTERNSHIP, (4) CONDUCT CONFERENCES AND WORKSHOPS, AND (5) DISSEMINATE RESEARCH FINDINGS. THE FIRST YEAR OF OPERATION WAS DOMINATED BY STAFFING, EQUIPPING, AND INITIAL ACTIVITIES. A REFERENCE UNIT CONTAINING OVER 3,500 SEPARATE ITEMS, AN INFORMATION RETRIEVAL SYSTEM, AND LITERATURE SEARCH SERVICES WERE ESTABLISHED. SUMMARIES OF FIVE COMPLETED, 13 IN PROCESS, AND TWO PROPOSED STUDIES COVERING LABOR MARKET ASPECTS OF VOCATIONAL EDUCATION, CURRICULUM, COUNSELING, AND GRADUATE TRAINEE FOLLOWUP ARE INCLUDED. GRADUATE RESEARCH PROJECTS AND INTERNSHIPS WERE INITIATED, AND TWO CONFERENCES ON OCCUPATIONAL DATA REQUIREMENTS AND DEVELOPMENT OF LEADERSHIP ABILITIES FOR DISTRIBUTIVE EDUCATION WERE HELD AND TWO OTHERS ON FOLLOWUP STUDIES AND RESEARCH FINDINGS WERE PLANNED. THE CENTER INITIATED A SERIES OF PUBLICATIONS, INCLUDING THE "JOURNAL OF HUMAN RESOURCES," A PERIODIC REPORT OF CENTER ACTIVITIES, REPRINTS, BROCHURES ON REFERENCE UNIT ACQUISITIONS AND DESCRIPTIONS OF GRADUATE STUDY AND RESEARCH OPPORTUNITIES. DETAILS OF THE STAFF MAKEUP AND ADVISORY COMMITTEE ACTIVITIES ARE INCLUDED. (JM)

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INDUSTRIAL RELATIONS RESEARCH INSTITUTE

CENTER FOR STUDIES IN VOCATIONAL AND TECHNICAL EDUCATION

THE UNIVERSITY OF WISCONSIN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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PREFACE

The Center for Studies in Vocational and Technical Education was established at the University of Wisconsin in October 1964, through a five-year grant from the Ford Foundation. The principal purposes to the Center, as set forth at the time of its establishment, are as follows:

(1) The establishment of a national depository of data, documents, and publications relating to the field of vocational and technical education, and an information retrieval and dissemination center providing reference and bibliographical services for persons throughout the country active in the field.

(2) Research and development in this field, dealing with related aspects of the labor market, guidance and counseling, and instruction and curriculum.

(3) Financial support for graduate study and internships in vocational and technical education, in order to provide an inducement for graduate students to do work in this field and to provide leadership at various levels of the vocational and technical education programs.

(4) Conferences and workshops bringing together personnel in vocational and technical education and those from universities and government agencies engaged in research in this field.

(5) Dissemination of research findings in the field of vocational and technical education, emerging both from the Center's own research activities and from research activities elsewhere, by means of a series of appropriate publications to be distributed widely among vocational educators as well as government, university, business, labor, and agricultural groups.

The first year of the Center's activities was inevitably dominated, in the initial period at least, by the hiring of an appropriate administrative, research

and library staff, and by the acquisition of appropriate physical facilities within the university. Significant progress, however, can also be reported in pursuing the goals indicated above. The nature and extent of this progress are indicated in some detail in the pages which follow.

The Directors of the Center are grateful to the Ford Foundation for making these activities possible, and they are indebted to the staff members and the Advisory Committee of the Center (see pages 3 and 4) for their invaluable assistance and cooperation.

J. Kenneth Little and Gerald G. Somers, Co-Directors
Madison, Wisconsin
October 1965

I. THE CENTER STAFF

Co-Directors

J. Kenneth Little, Professor of Educational Psychology
Gerald G. Somers, Professor of Economics

Research Associates

Graeme McKechnie, Project Associate, Industrial Relations
Philip Perrone, Associate Professor of Counseling and Behavior Studies
Harland Samson, Associate Professor of Curriculum and Instruction

Associated Faculty Members

Michael T. Aiken, Assistant Professor of Sociology
Robert Alford, Associate Professor of Sociology
Walter T. Bjoraker, Professor and Chairman, Department of Agricultural Extension Education
Glen Cain, Assistant Professor of Economics
Alan C. Filley, Associate Professor of Commerce
Lee Hansen, Associate Professor of Economics and Educational Policy Studies
David B. Johnson, Professor of Economics and Chairman, Department of Economics
Richard Perlman, Chairman, Department of Economics, University of Wisconsin--Milwaukee

The Reference Unit

Kenneth Keller, Information Coordinator
Sylvia Kassalow, Staff Assistant
William B. Hinsenkamp, Search Analyst

Publications

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Mildred Hammes, Secretary
Shirley Rabideau, Secretary
Mary J. Barringer
Judith A. Cohen
Maryy K. Fuerston
Constance N. Locke

Graduate Research Assistants

(See Section V of this report)

In addition, the Directors of the Center are indebted to two former staff members--Barbara Boyce, Editorial Assistant, and Robert H. Fenske, Assistant Coordinator--for their work during the past year.

II. THE ADVISORY COMMITTEE

The Advisory Committee of the Center for Studies in Vocational and Technical Education gives broad guidance and direction to the Center Staff in its programs of data-gathering and dissemination, research and instruction. The members of the Advisory Committee are:

On-Campus Members

Robben W. Fleming, Chancellor, University of Wisconsin, Madison (Chairman)
Lorentz H. Adolfson, Chancellor, University Centers, Madison
Erwin A. Gaumnitz, Dean, School of Commerce
Glenn S. Pound, Dean, College of Agriculture
Theodore J. Shannon, Dean, University Extension Division
Lindley J. Stiles, Dean, School of Education
Kurt F. Wendt, Dean, College of Engineering

Off-Campus Members

Melvin L. Barlow, Director, Division of Vocational Education, The University of California at Los Angeles
Jacob F. Friedrick, Milwaukee Labor Council, Milwaukee
Clarence L. Greiber, Director, State Board of Vocational and Technical Education, Madison
George Howden, Division Engineer, Wisconsin Telephone Company, Appleton
Gilbert Jautz, Principal, Boys' Technical and Trade School, Milwaukee
Charles E. Jones, Superintendent of Schools, Manitowoc
Eugene I. Lehrmann, Director, School of Vocational-Technical and Adult Education, Kenosha
Alfon Mathison, Director, Technical Institute Program, Milwaukee Vocational, Technical, and Adult Education Schools
Edward J. Meade, Jr., Program Associate, The Ford Foundation
William J. Micheels, President, Stout State University, Menomonie
Angus B. Rothwell, State Superintendent of Public Instruction, Madison
Francis J. Walsh, Director, State Employment Service, Madison
Karl Werwath, President, Milwaukee School of Engineering
Edwin H. Young, President, The University of Maine

Advisory Board - Additions and Corrections

Curtis Aller, Director, Office of Manpower, Automation & Training
U.S. Department of Labor, Washington, D.C.

Edward Meade, Ford Foundation (Member ex-officio)

The first meeting of the Advisory Committee was held on February 26, 1965. The members present were: Adolfson, Fleming, Friedrick, Grieber, Howden, Jautz, Lehrmann, Mathison, Michaels, Pound, Rothwell, Shannon, Walsh, Werwath, and Young. A major portion of the discussion concerned the purposes and plans of the Center, and the general need for study of vocational and technical education programs. Plans for the establishment of the Reference Unit were described, including the information retrieval system and the plans for publications of special annotated bibliographies.

In the area of research, Professor Little outlined the three areas of study on which the Center will concentrate as follows:

(1) The Economic Environment: job trends, occupational information needed for educational planning, mobility of labor, etc.

(2) The Human Dimension: characteristics of persons who seek vocational and technical training, basic qualifications for employability and successful work performance, etc.

(3) Educational Programs and Resources: curricula, teacher qualifications, instructional procedures required for effective vocational and technical education, etc.

In addition, several of the research projects either proposed or now under way were described or mentioned, and members of the Advisory Committee described the following programs or projects under way in their institutions or communities:

(1) Stout State University -- Development of a new curriculum in American Industry emphasizing the learning of basic concepts rather than job skills: a pilot study being tried in 10 Wisconsin high schools (Micheels).

(2) Milwaukee Schools of Vocational, Technical and Adult Education -- a study emphasizing the use of new educational media in the teaching of technical subjects (Mathison).

(3) Kenosha Schools of Vocational, Technical, and Adult Education -- a study concentrating on the use of special teaching devices, facilities, and library arrangements in individualizing instruction for vocational and technical students (Lehrmann).

(4) Milwaukee School of Engineering -- a study of the "goals of Technological Education" -- a companion study to the goals of Engineering Education (Werwath, chairman of a committee of educators in technical institutes and colleges).

During the second part of the meeting, some of the committee members made specific suggestions and remarks concerning the activities of the Center. Mr. Greiber described the interest of the State Board of Vocational and Adult Education in the establishment of the Center and made the following suggestions:

(1) The areas and levels of training in which the Center will operate should be clearly defined.

(2) Up-to-date information on number, type and location of jobs for which training or education is needed should be developed and maintained.

(3) The Center Research staff should be alert to new types of jobs that are developing and jobs that are becoming obsolete.

(4) Special attention should be given to needs in rural areas.

(5) Evaluation of apprenticeship programs is needed.

(6) The Center will be useful in providing information, giving consultation on development of research proposals and experimental programs, and making studies of special problem areas of vocational education programs and plans.

Mr. Rothwell pointed out that the Vocational Education Act of 1963 encourages and enables high schools to give greater attention to occupationally oriented courses. Such programs will be introduced into 20 or 30 Wisconsin high schools in the fall of 1965. The program will require new curricula, new tests of aptitude, new teacher preparation programs, and new community relationships with employers. The programs will bear especially upon the problems of youth who must make the transition from school to work rather than from school to college baccalaureate degree programs.

Mr. Walsh described the activities of the Wisconsin Employment Service as it relates to the work of the Center, making specific mention of a job survey in Milwaukee which identifies the types of jobs and numbers employed in them in that community. He described the counseling service available to high school graduates, and pointed out that a crucial problem is the education and counseling of job-seekers about the need for mobility in a rapidly changing job market.

The next meeting of the Advisory Committee will be held on December 1, 1965.

III. THE REFERENCE UNIT

It is the objective of the Center to establish the Reference Unit as a comprehensive national depository for data and publications in the field of vocational and technical education. The collection of publications, including books, pamphlets, reports, and reprints, now contains over 3,500 separate items. References to these publications number more than 4,500, as articles in periodicals, chapters in books, and tables and charts are often cited individually.

To facilitate use of the publications held in the Center, each item is catalogued by author and title. In addition, publications are cited by series, corporate source, report number and/or name, and by bulletin number and/or name, where this is applicable. Thus, if a user knows about a publication only by author, or only by title, or only by report number, etc., the publication can still be located and made available.

To facilitate the location of items in the collection, and to lend a "browsability" feature to the collection, all items have been classified by the Universal Decimal Classification system. Because the numbers in the Universal Decimal System coincide with those in the Dewey Decimal System, users accustomed to the classifications in many public libraries will be able to locate references easily.

Information Retrieval

To assist research workers in locating references pertinent to their studies, an information retrieval system has been established, using a modified machine search method (TERMATREX).

This system has a number of advantages:

(a) It enables the Reference Unit to more quickly locate and make available to research workers materials and references on specific and specialized topics.

(b) It provides training to graduate students who, as indexers of the material, must read pertinent literature and see its relationship to research activities in the field.

(c) It can be coordinated with other information retrieval systems and form a useful adjunct to similar operations, nationally and regionally.

The retrieval system can refer users not only to materials it has acquired but to abstracts, articles, and other types of material not in its collection.

An information retrieval system is as effective as the comprehensiveness of its information search and the accuracy and excellence of its indexing procedures. The process is initially slow, but its value increases with the volume of information processed. At this point, only about 500 items have been indexed and read into the Termatrex system. As more indexers are trained and become more skilled, the backlog of indexing will be reduced.

Services

Services of the Reference Unit include the conduct of literature searches, and the compilation of bibliographies, at user's request. If the user requires a copy of the item itself, Xerox copying service is available. No charge is made for searches and bibliographies, but a nominal fee is contemplated for Xerox copies.

A mailing list is being compiled and has now reached approximately 1,000. Reports of activities and services of the Reference Unit are being sent to institutions on the list. Lists of references acquired on selected topics are sent periodically. Two such lists have been circulated. The names of interested persons are added to the mailing list on request. (For further information on Reference Unit publications, see Section VII of this report.)

IV. RESEARCH

Research and development in the field of vocational and technical education is perhaps the most important aspect of the Center's activities. During the first year of operation, several studies have been completed and many more have been initiated under the Center's auspices and/or direction. These studies cover a wide range of research on the labor market aspects of vocational education, curriculum, and counseling, and on the follow-up of vocational graduates and trainees.

A. Research Completed

Following are summary statements of research completed under the auspices of the Center during its first year. Since these projects were initiated before the establishment of the Center, they were only partially supported by Center funds. Inquiries concerning the full reports and publications should be addressed to the Center.

THE OCCUPATIONS OF NON-COLLEGE-GOING YOUTH: A SUMMARY OF A COOPERATIVE RESEARCH PROJECT S-041 FOR THE U.S. OFFICE OF EDUCATION
Research Investigator: J. Kenneth Little, Professor of Educational Psychology; with the assistance of Brian Heath, graduate research assistant

In this study, Professor Little traced the careers of male 1957 graduates of Wisconsin public and private high schools to learn about their post-high school education and current occupational status. Those graduates not currently in school, military service, or unemployed (3,303) were divided into three groups--(1) those who attended a degree-granting college; (2) those who attended a vocational or trade school; and (3) those who attended no school after high school graduation. These groups were compared on current occupational status and in relation to such background factors as scholastic aptitude, high school achievement, father's occupation and education, socio-economic status of the family, and size of community in which the graduate attended high school.

Findings

(1) Twelve percent more graduates attended vocational school or college than had such plans at high school graduation.

(2) The non-college-going student is typically a student who was average in scholastic ability and less than average in scholastic performance. He is most likely to be from a small community (less than 10,000). His father is likely to be in a farming or unskilled occupation and probably was not a high school graduate. His family was likely to be below the median in socio-economic status.

(3) More than 17 percent of the graduates had attended a vocational or trade school. They have a smaller proportion of college-educated fathers, and a higher proportion of fathers in unskilled occupations.

(4) The occupations attained by the graduates are definitely related to the amount and type of their post-high school education, and to certain personal and family background factors. The vocational school students are in higher prestige occupations than those whose education stopped at high school graduation, and the college students are in even higher level occupations.

(5) There is a large overlap in occupational attainment among the three groups. More than a fourth of the non-school graduates were in occupations having higher prestige than a fourth of the college-going students, and half of the vocational school students were doing as well as half of the college-going students.

(6) Except at the level of professional occupations, the value added by attending particular educational programs seems small. There is more to suggest that personal qualities of general ability and habits of achievement are at work in occupational attainment as well as in educational progress and achievement. Occupational attainment is enhanced by having well-educated parents in well-established positions, with consequent high socio-economic status.

(7) Graduates who live in metropolitan areas achieved somewhat higher occupational status than students who remained in rural areas. Rural students who migrated to urban areas to receive vocational training apparently did relatively better.

(8) The graduates had indicated at the time of their graduation the occupations they "hoped" eventually to enter. Their attained occupations coincided remarkably with their occupational aspirations. These young men were realistic in sizing up their occupational opportunities and eventual job careers -- at least, within 10 years after high school graduation.

(9) The study brings forth no startling new evidence. It does document, however, certain assumptions that have been more in the realm of belief than demonstrated fact. It also indicates some of the dimensions of the educational and occupational problems of the two-thirds or more of our youth whose educational and occupational plans stop short of attaining a baccalaureate degree.

A STUDY OF THE REGISTERED APPRENTICESHIP PROGRAM IN WISCONSIN
Research Investigator: G. SoundaraRajan, under the supervision of Professor Jack Barbash (Doctoral Dissertation--University of Wisconsin)

The objectives of this research were: (a) to prepare a comprehensive document on the Wisconsin Apprenticeship Program, (b) to examine the trend of the apprenticeship transactions, and (c) to develop information on the major factors that affect apprenticeship transactions in Wisconsin. The first objective was realized by bringing together relevant and available information about the institutions that participate in the program and presenting it in an historical perspective. Trends in apprenticeship transactions between 1911 and 1962 were ascertained by analyzing statistical data collected from the Apprenticeship Division of the Industrial Commission of Wisconsin. Information on the factors that affect apprenticeship activities in Wisconsin was obtained through surveys of current apprentices, drop-outs, and employers.

Historically, from 1911 to 1925 new registrations rose steadily, but thereafter they decreased. During 1930-33 the decline in new registrations was severe. From 1934 to 1946 the trend was one of over-all growth, and since 1946 new registrations have shown an over-all decline. The number of completions also began to decline after 1950. This adversely affects apprenticeship as a labor market device. And although the decline in cancellations is a hopeful sign, the crux of the problem is the decrease in the number of registrations.

The following major factors were found to influence apprenticeship transactions in Wisconsin: (a) current apprentices are dissatisfied with related instruction and shop training; (b) dissatisfaction with the work and working conditions causes apprentices to drop out of the program before completion; (c) employers tend to limit the number of apprentices they hire because of unfavorable business conditions and the high cost of apprentice training; and (d) institutional rigidities, such as too lengthy duration of training and high journeyman-apprentices ratios, tend to discourage employers from hiring more apprentices.

As a result of this research, Mr. SoundaraRajan makes the following recommendations: the objectives of the apprenticeship program must be restated in terms of the labor market needs; the Apprenticeship Division of the Industrial Commission should play a more active role, not only as a supervisory and promotional agency, but also as an agency for the planning and development of skills needed in the changing economy; and, finally, there is a need to provide tax incentives for employers in order to encourage them to hire more apprentices.

EFFECTS OF LOCAL OPPORTUNITIES FOR POST-HIGH SCHOOL EDUCATION UPON PLANS OF HIGH SCHOOL GRADUATES

Research Investigator: Robert H. Fenske, * under the supervision fo Professor J. Kenneth Little (Doctoral Dissertation -- University of Wisconsin)

This study raises interesting questions about the effects the presence or absence of a college in the home community has upon the college-going plans of high school graduates. Fenske studied the post-high school educational plans of the 1963 graduates of high schools in 10 Wisconsin communities having a population of 10,000 or more. Four communities had two-year university centers; two had state universities; four had no college opportunity. No important differences were found among the three groups of communities in the proportions of their graduates who were planning to attend college. In fact, a community without a college had the highest yield of college-going graduates, and a community with a state university had next to the lowest yield.

By applying the gamma measure of association, Fenske was able to establish that the factors accounting for about 90 percent of the differences in yield among the communities were: (a) differences in proportion of high ability or low ability students among the graduates; (b) differences in proportion of fathers who had graduated from high school, or of fathers who had not attended high school; and (c) differences in proportion of fathers who were in professional, managerial, or executive positions, or of fathers who were in farming or unskilled occupations.

More graduates, particularly girls, who were of middle scholastic ability and achievement (40-70 percentile) planned to attend college in communities which had college opportunities than in communities without college programs. The differences were not great, however. The number of students planning to

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* Robert Fenske, Staff Associate for the Center 1964-65, is now Assistant Professor of Education and a staff member of the Bureau of Institutional Research at the University of Minnesota.

attend vocational or trade schools varied widely among the communities. In general, the communities which had low yields of college-going graduates had comparatively higher yields of graduates planning to attend vocational schools, and vice versa. The average yield among the communities was about 12 percent.

The study deserves the attention of those planning new college programs or campuses. Its technique of measuring the strength of association between the several variable studied will also interest research workers in the field.

THE PREDICTION OF OCCUPATIONAL STATUS FOR NON-COLLEGE-GOING HIGH SCHOOL GRADUATES

Research Investigator: Brian Heath,* under the supervision of Professor J. Kenneth Little (Doctoral Dissertation--University of Wisconsin)

This research considered the predictive relationship of measures of high school achievement and of the level of occupational attainment by a probability sample (4,185) of the male graduates of Wisconsin high schools in 1957. Very low positive relationships were found. The knowledge level of high school achievement was of negligible significance in predicting the level of occupational status of the graduate eight years after his high school graduation. Occupational attainment was measured by an adaptation of the occupational prestige scale developed by the National Opinion Research Center.

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* Brian Heath is now Assistant Professor of Education, University of Pittsburgh. His thesis used a part of the data described in Professor J. Kenneth Little's report on "The Occupations of Non-College-Going Youth" (see p. 9).

STUDIES OF VOCATIONAL RETRAINING PROGRAMS FOR THE UNEMPLOYED

Research Investigators: Gerald G. Somers, Glen Cain, and Graeme McKechnie, University of Wisconsin; Harold A. Gibbard, Professor of Sociology, West Virginia University; Ernst Stromsdorfer, Assistant Professor of Economics, Pennsylvania State University; with the assistance of Edward C. Koziara, Marvin T. Levine, and Wilbur Smith, graduate research assistants.*

A series of studies evaluating retraining programs for the unemployed was initiated under a Ford Foundation grant in 1962. These studies are continuing under the original grant and are being incorporated into the research conducted within the Center for Studies in Vocational and Technical Education. The following publications and reports have resulted from the research to date:

Gerald G. Somers:

"Retraining the Unemployed: A Preliminary Survey," Hearings Before the Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare, United States Senate, Eighty-Eighth Congress, First Session, June 7, 1963.

"Automation, Retraining and Public Welfare," a paper presented before a Conference on Automation and Public Welfare, sponsored by Cornell University School of Industrial and Labor Relations, and the Foundation on Automation and Employment, New York City, October 7, 1963; published in Automation and Public Welfare, the Journal of the American Public Welfare Association, April 1964.

"Retraining and Labor Market Policy," a discussion at the 1963 University of California Conference on Unemployment; published as a chapter in Unemployment and the American Economy, Arthur M. Ross, Editor, John Wiley and Sons, 1964.

"Training and Retraining: Research as a Guide to Policy," a paper presented at the Training and Retraining Conference sponsored by the Brookings Institution and the American Foundation on Automation and Employment, Williamsburg, Virginia, January 19-22, 1964, and published in the Conference Report.

"Retraining: An Evaluation of Gains and Costs," a chapter in Employment Policy and the Labor Market, edited by Arthur M. Ross, University of California Press, 1965.

"Training the Unemployed," chapter for In Aid of the Unemployed, edited by Joseph Becker, S. J., Johns Hopkins Press, 1965.

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* Edward Koziara is now Assistant Professor of Economics at San Jose State College; Marvin Levine is Assistant Professor of Economics at Ohio State University; and Wilbur Smith is now Instructor with the University Center System at Wausau, Wisconsin.

Somers (cont'd)

"A Benefit-Cost Analysis of Manpower Retraining," with Ernst Stromsdorfer, presented at the IRRA-American Economic Association meeting in Chicago, December 1964; IRRA Proceedings, May 1965.

"Research Methodology in the Evaluation of Retraining Programs," a paper in Labour and Automation, Bulletin No. 1 entitled, Automation: A Discussion of Research Methods, International Labour Office, 1965.

"La Formation Professionelle des Adultes," Sociologie de Travail, Paris, May 1965.

"Government-Subsidized On-the-Job Training: Survey of Employer Attitudes," Hearings before the Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare, United States Senate, September 13, 1965.

"Employment and Income of Older Workers: The Role of Retraining," presented at a conference sponsored by the National Council on the Aging, Washington, D.C., October 25-27, 1965.

Retraining the Unemployed: Case Studies, edited by Gerald G. Somers, including chapters by Glen Cain, Harold Gibbard, Gerald Somers, Ernst Stromsdorfer and others, to be published by the University of Wisconsin Press, 1965-66.

Harold A. Gibbard, "Factors Affecting Retraining in West Virginia," presented at the Spring meetings of the Industrial Relations Research Association, and published in Labor Law Journal, Vol. 15, No. 7, July 1964.

Edward C. Koziara, Employer Attitudes toward Government Retraining, unpublished Ph.D. Thesis, University of Wisconsin, 1965.

Marvin T. Levine, An Evaluation of Training Programs for the Unemployed in the United States, unpublished Ph.D. Thesis, University of Wisconsin, 1963.

3. Research in Progress

A number of studies have been initiated during the past year under the Center's on-going research program. Statements of the purposes and progress of each of these studies are given below.

1. Curriculum and Instruction

EXPERIMENTAL USE OF NEW EDUCATIONAL MEDIA IN VOCATIONAL EDUCATION
Research Investigator: J. Kenneth Little, Professor of Educational Psychology

The Kenosha Schools of Vocational, Technical and Adult Education are constructing a new facility which will be designed and equipped with an advanced communications system center, including individual electronic television audio carrels as a library resource, 10-15 small group conference areas having electronic equipment, and 25-35 standard classrooms, also with electronic components. Classrooms will use the "middle room" or "corner room" concept of classroom construction.

The Center staff has been asked to assist in shaping a research and development program that will test, demonstrate, and evaluate instructional procedures made possible by this total teaching capacity. The plan is to consider the possibilities of using individualized programs of instruction to up-grade the mathematical skills of entering students. These students would be randomly assigned to groups in which instructional procedures would vary in their pattern of use or non-use of individualized materials and new media. Evaluation would note rate at which mathematical skills are developed under the differing procedures, effect upon drop-out rate, and other indices of the efficacy of new media and methods.

The Kenosha staff is currently engaged in planning the new facility. The Center hopes to assist in the planning for educational experimentation during the current year, with operation to begin when the move is made to the new facility.

EXPERIMENTAL PROGRAM FOR PREPARATION OF TEACHER-COORDINATORS OF NEW HIGH SCHOOL VOCATIONAL PROGRAMS.

Research Investigator: Harland Samson, Associate Professor of Education

This program has been developed in cooperation with the Wisconsin State Department of Public Instruction and the State Board of Vocational and Adult Education to prepare selected high school staff members to organize and develop vocational education programs in their high schools under the Vocational Education Act of 1963. The program has three phases:

Phase 1. Twenty-one Wisconsin high schools were selected for inclusion in this project because of the broadness of their offerings and the innovative approach they proposed to use in initiating new vocational education programs in 1965-1966. The program directors or coordinators from these schools were identified and enrolled in a special summer institute at the University of Wisconsin during the regular summer session of 1965.

Phase 2. The participants in the special summer institute program attended class full time for four weeks to study and discuss the organization and operation of vocational education programs. Following the four-week session on campus, the participants spent three weeks in their own schools and communities carrying out developmental projects such as setting up advisory committees, selecting students, and consulting with businessmen. A final week was spent on campus in review and criticism of the field experiences.

Phase 3. Follow-up of the programs as they develop in the high schools during the 1965-66 school year, and evaluation of the total program as a model for future teacher-coordinator preparation will continue through the 1965-66 school year. This final phase will be completed by June 30, 1966.

A STUDY OF JOINT APPRENTICESHIP COMMITTEES IN WISCONSIN
Research Investigator: Alan C. Filley, Associate Professor of Commerce, with the assistance of Karl Magnusen, graduate research assistant

The initial phase of the study of joint apprenticeship committees in Wisconsin has been a review of pertinent literature, observation of joint committee meetings in the Madison area, and interviews with the chairmen of these committees. The investigators have also interviewed the Director of the Wisconsin Apprenticeship Division, Mr. Charles Nye. Based on this background data, a questionnaire is being prepared which will be mailed to all joint committees in the state.

Questionnaire data will describe: (1) the structure and meeting format of such committees; (2) the committees' perception of their functions; (3) the characteristics of committee leadership and membership; (4) the relationship of these committees to the supply of and demand for apprentices; (5) the conditions under which an apprentice may be employed, including the qualifications required of an employer before an apprentice can be indentured to him, and the relationship of the stated apprentice-journeyman ratio and the actual ratio; (6) the recruiting and selection processes of apprentices through joint committees; (7) the prevalence of the practice of giving time-credit on apprenticeship for past experience; (8) the committees' roles in training the apprentice and evaluating his progress toward the status of journeyman; (9) the influence of committees on the apprentice completion ratio; and (10) committee recommendations to improve the apprenticeship program.

2. Occupational Data and Vocational Education

AN EVALUATION OF AREA SKILL SURVEYS, AREA TRAINING NEEDS SURVEYS AND JOB VACANCY SURVEYS IN FORECASTING LABOR DEMAND FOR PURPOSES OF VOCATIONAL EDUCATION AND TRAINING
Research Investigator: Richard Perlman, Chairman, Department of Economics, University of Wisconsin - Milwaukee, and Gerald Somers; with the assistance of Collette Moser, graduate research assistant

Research resulting from the recent Manpower legislation is currently tending to focus on the need for more information on the demand side of the employment equation in order that training and mobility activities may be effectively utilized in a matching of supply and demand. In addition to the various efforts to collect current occupational needs data, public employment services in several states have been conducting area skills surveys to determine future occupational needs for state and local labor market areas projected for two and five years.

The purpose of this research is to evaluate such area skills surveys, training needs surveys, and job vacancy surveys in the following manner:

(1) Appraisal of the methodology of the surveys and a comparison of the techniques used by the various state agencies.

(2) Conduct follow-up studies of selected area skills, training needs, and job vacancy surveys to determine the accuracy of their two- and five-year predictions. Special concentration will be placed on area skills surveys conducted within the State of Wisconsin.

(3) Interviews with selected Employment Service officials and employers to determine the factors involved in the success or lack of success of the various surveys.

(4) Relating the methods, findings, and problems of the area skills program to those of the pilot job vacancy survey program with the view of offering recommendations for improvements, standardization, extension, etc.

(5) Examining the extent to which the surveys are being used by employers, educators, and vocational and local training program planners. Such an examination will probably include surveys with employers, instructors, planners, and government personnel to explore what alterations in the area skills surveys would be useful.

AN ANALYSIS OF LONG-RANGE PROJECTIONS OF OCCUPATIONAL TRENDS

Research Investigator: Lee Hansen, Associate Professor of Economics and Education Policy; with the assistance of S. Muthuchidambaram, graduate research assistant

As part of the final appraisal of labor market data available for vocational education planning, Professor Hansen is evaluating current efforts to make long-range projections of occupational trends in the United States,

continuing work in which he was engaged as a staff member of the President's Council of Economic Advisors. His analysis falls into two parts: the first deals with projections for the broad occupational groups, while the second focuses on projections for specific and more narrowly defined occupational categories. These parts are being done sequentially, with the expectation that the first part will be completed early in 1966 and the second later in 1966. The study will also include an appraisal of alternative procedures by which long-range occupational projections can be improved.

The initial findings of the study are now being pulled together for incorporation in a paper to be presented at the Industrial Relations Research Association meetings in New York in late December of this year.

ANALYSIS OF THE PROCEDURES AND OCCUPATIONAL DATA UTILIZED IN THE ESTABLISHMENT OF COURSES IN VOCATIONAL EDUCATION AND TRAINING

Research Investigators: Harland Samson, Associate Professor of Education, Gerald Somers, Professor of Economics, and Graeme McKechnie, Project Associate; with the assistance of Henry Kao, graduate research assistant

Vocational education has been criticized in some circles for adopting courses which do not accord with the realities of the labor market. However, no systematic attempt on a national basis has yet been made to analyze the specific procedures by which course selections are made by vocational authorities; nor has a systematic effort been made to appraise the types of occupational and labor market data actually used in course selection.

The proposed research survey, carried out in cooperation with state divisions of vocational and technical education, will utilize a mail questionnaire, to be directed to authorities in the vocational education system who have the responsibility for establishing particular courses of study. The following questions will be raised:

(1) What community agencies are established in order to assist the vocational authorities in their choice of course selection (size, composition, etc.)?

(2) How do these assisting bodies differ according to type of course, level of skill, area of instruction, etc.?

(3) What types of occupational data are utilized and found to be most useful in the establishment of particular vocational training courses?

AN EVALUATION OF THE USE OF OCCUPATIONAL DATA IN THE VOCATIONAL COUNSELING OF HIGH SCHOOL STUDENTS

Research Investigators: Philip Perrone, Associate Professor of Education, and Gerald Somers, Professor of Economics; with the assistance of Barbara Klees, graduate research assistant

The principal purposes of this research are:

(1) To appraise the present published sources of occupational data available for the use of high school counselors.

(2) To determine the extent to which these sources of data are used by counselors, and the value placed by counselors on specific types of data.

(3) To analyze the factors which pertain to the use or lack of use of specific types of occupational data in high school counseling.

The first phase of the research has been completed, resulting in a classified listing of sources of occupational data for high school counselors. These sources have been classified under three broad headings: (1) job descriptions (requirements, conditions, and perquisites of specific occupations); (2) job outlook (the supply and demand in particular occupations for particular areas and the country as a whole, including projections of future supply and demand); and (3) general labor market information (economic trends, employment and unemployment, etc.).

The achievement of the second purpose of the research is to be based primarily on a nationwide survey of members of the American School Counselors Association. A pilot survey has been conducted among school counselors in high schools surrounding Madison, Wisconsin, in order to test a questionnaire instrument and to develop hypotheses which are to be reflected in the design of the national survey questionnaire. Prior to the initiation of the national survey, another pilot survey pre-testing

the questionnaire will be conducted among high school counselors in Wisconsin with the cooperation of members of Wisconsin counselors' associations.

Personnel associated with the ASCA have indicated their cooperation with the national survey, and it is expected that the questionnaires will be distributed to the national sample this fall. In-depth interviews will also be conducted with a sub-sample of the respondents to the mail questionnaire to obtain greater detail on the background and activities of the counselors as correlates of their use of occupational data.

3. Education, Training, and Employment

FOLLOW-UP STUDIES OF STUDENTS IN VOCATIONAL EDUCATION COURSES
Research Investigators: J. Kenneth Little, Professor of Educational Psychology, and Gerald Somers, Professor of Economics.

A national follow-up survey of vocational school graduates is currently in the planning stage. It is anticipated that this will be a major national survey, composed of a sizeable sample of graduates, and control groups of non-vocational school graduates, selected with the cooperation of school authorities throughout the country. At the present time, pilot follow-up studies are being conducted in sections of Wisconsin, and the questionnaire designs as well as the other experience gained in these pilot surveys will be used as a basis for the national study.

Also, in anticipation of the finalization of plans for this survey, a conference is being scheduled for November 1965, to include approximately twenty persons from various parts of the country who are currently engaged in some phase of the follow-up of vocational school graduates. It is hoped that, as a result of the proceedings of this conference, the Center's follow-up study will avoid duplication of other studies, gain from the experience of other studies, and establish some standard set of procedures

and questionnaire designs for other follow-up studies in the future. In this way, our own study and those to follow should have enhanced additive and comparative value.

It is also expected that the national follow-up study conducted by the Center will be related to the follow-up study being initiated by Professors Lee Hansen and Burton Weisbrod of the Department of Economics, University of Wisconsin, funded through a separate Ford Foundation grant.

STUDIES OF VOCATIONAL RETRAINING PROGRAMS FOR THE UNEMPLOYED
Research Investigators: Gerald Somers, Professor of Economics, Glen Cain, Associate Professor of Economics, and Graeme McKechnie, Project Associate; with the assistance of Leonard Hausman, Walter Hubner, and Winston Tillery, graduate research assistants.

Since 1962 studies have been conducted in order to evaluate the effectiveness of government-sponsored retraining programs for unemployed and underemployed workers. These studies are now being incorporated into the research program of the Center. The initial phases of the studies involved the interviewing of an extensive sample of vocational trainees in West Virginia and a number of other depressed areas in the country. The post-training employment experience of these trainees was then compared with the employment experience of control groups of non-trainee unemployed workers.

The evaluation surveys of vocational trainees are now being continued along the following lines:

(1) An analysis of social security earnings data of over 2,000 trainees and non-trainees in order to evaluate the effectiveness of government-sponsored training in enhancing employment and earnings.

(2) An analysis of the relation of vocational training to geographic mobility from depressed areas, based on the experience of formerly unemployed workers in West Virginia.

(3) An evaluation of the effectiveness of vocational training for hard-core unemployed welfare recipients in Milwaukee, Wisconsin. Over 150 trainees have been interviewed, and their post-training employment experience is being compared with that of a control group of trainees enrolled in more general government-sponsored training programs under the Manpower Development and Training Act.

(4) An evaluation of the effectiveness of retraining carried out in conjunction with other policies to aid workers in economically depressed areas in Northern Wisconsin, Northern Michigan, and Northern Minnesota. The study of these other depressed-area policies (plant expansion and public works) with which retraining programs are being compared is being financed through a grant from the U. S. Department of Commerce.

As indicated in the section on completed research, a number of publications have resulted from this over-all research. Two of the recent research reports are:

(1) "Benefit-Cost Analysis of Manpower Retraining," by Gerald G. Somers and Ernst Stromsdorfer, IRRI Reprint # 64; and

(2) "Government-Subsidized On-the-Job Training: Surveys of Employer Attitudes," by Gerald G. Somers.

THE ROLE OF VOCATIONAL EDUCATION IN FURTHERING THE MOVEMENT FROM BLUE COLLAR TO WHITE COLLAR EMPLOYMENT
Research Investigator: David B. Johnson, Professor of Economics

Research has been conducted under a grant from the Office of Manpower, Automation and Training to: (1) measure the extent and direction of movement of men in Milwaukee county from blue to white collar jobs, and (2) determine through interviews the characteristics of a group of 452 men who actually made the switch from blue to white collar jobs. In analyzing the interview data, an attempt is being made to identify transferable skill cores acquired by the men and to analyze the process of skill acquisition.

Summary tabulations of the interviews have recently become available. These initial data appear to indicate that part-time vocational and technical education programs undertaken by a substantial portion of the respondents may have been a significant factor in their job shifts. The tabulations also appear to indicate a relatively insignificant incidence of full-time vocational and technical schooling (as contrasted with college or university programs) among the respondents after the age of 18.

After more detailed analysis of both the full-time and part-time schooling of these respondents, officials of the Milwaukee Vocational School and the two

technical institutes in Milwaukee will be interviewed in order to determine whether further analysis of the programs of these individuals is feasible and/or whether it is practicable to trace other individuals who have taken courses at these institutions and who have shifted from blue to white collar employment.

The estimated completion date for this project is June 30, 1966.

VOCATIONAL TRAINING AND EMPLOYMENT OPPORTUNITIES FOR RURAL YOUTH
Research Investigator: Gerald Matteson, under the direction of Professor James W. Hensel, College of Agriculture

This study is an attempt to determine the value of high school vocational education (specifically vocational agriculture, and industrial arts) to selected male graduates in their post-high school employment. Data will be based on a randomly stratified sample of 10 of the 54 high schools in the 11 counties in East-Central Wisconsin. This section of the state was chosen because it is economically depressed in comparison with other economic regions of Wisconsin, and in general these are counties which have been losing population.

A questionnaire has been administered to a population of male students graduated from these high schools in 1960 and 1961 who had completed less than 2 years of college and had 6 months or less of active military duty. The return on the questionnaire is presently 82%, and data analysis will commence in the immediate future.

A STUDY OF THE UTILIZATION OF VOCATIONAL EDUCATION BY WORKERS IN LACROSSE, WISCONSIN
Research Investigator: Graeme McKechnie, Project Associate, Industrial Relations

Preliminary analysis has begun on the study of vocational school trainees in LaCrosse, Wisconsin. During the spring and summer of 1962, questionnaires were mailed to all students (476) currently enrolled in night courses in the departments of Trades and Industries, and Commerce. Since courses offered in these two departments are more occupationally-oriented than courses offered in other areas, students enroll in them with some job objective in mind. Questionnaires were returned from 254 students (152 men and 102 women) for a response

rate of over 50%. No attempt has been made to obtain additional returns through a second mailing.

Preliminary Results

Over 60% of the respondents are married and the majority of the workers in the sample are between the ages of 25 and 45 -- the prime working years. The educational attainment is quite high with 80% having at least a high school diploma. Approximately 20% have college experience. Just over 70% of the students were working full time at their regular job during the Spring of 1962 and 10% were unemployed. Almost 9% had left the labor force. The remainder were employed, but at temporary jobs or at part-time work. Thus, the respondents appear to have enrolled in their courses in order to further their job goals or to find a job. This is further demonstrated by the fact that over one-third said they derived job-related benefits from the courses, and almost one-quarter stated that their courses aided their job performance. Many of the workers stated that their instruction helped them gain more knowledge in general.

An interesting comparison can be made between students who completed their course of instruction and those who dropped out before finishing. In this study, just over 60% of the students completed their course or courses. The Completes are more heavily represented in the higher educational levels than the Drop-outs. Also, a greater proportion of the Completes are in the age range of 25-45. This leads to the conclusion that the students who completed their course(s) may be more aware of the need for additional training, whereas the Drop-outs, who are less educated and are either quite young or quite old, may feel either that training is not necessary or that they are too old to return to the school routine.

The benefits of completion of the courses are evidenced by the labor force statuses of the students. Over 75% of the Completes were employed full time,

compared with only 64 percent of the Drop-outs. More of the Drop-outs were employed part time and/or at temporary jobs. In addition, almost 7 percent of the Drop-outs suffered two or more periods of unemployment during 1962, compared to 3 percent of the Completes. And, once unemployed, the Drop-outs were likely to suffer longer periods of inactivity; almost 23 percent of the Drop-outs were unemployed for longer than one month in 1962, compared to 17 percent of the Completes.

Future Plans

Future plans include a more detailed analysis of the attitudes of the students toward their courses and analysis of the labor force histories of the students. In all analyses, the distinction will be made between Completes and Drop-outs.

A group of workers who were unemployed in the Spring of 1962, but who had no vocational experience will be used as a comparison group in the future analyses. This "unemployed" sample consists of 333 workers in the skilled, semi-skilled and unskilled occupational categories.

4. Community Structure and Vocational Education

AN INVESTIGATION OF COMMUNITY VARIATIONS IN THE ESTABLISHMENT OF VOCATIONAL TRAINING AND RETRAINING PROGRAMS

Research Investigators: Michael T. Aiken, Assistant Professor of Sociology, and Robert Alford, Associate Professor of Sociology; with the assistance of Lachman Advani, Wayne Schwartzman, and Gershon Konditi, graduate research assistants

The purpose of this study is to discover what characteristics of American cities affect community variation in the establishment of certain welfare programs, particularly vocational training and retraining programs supported by recent federal enabling legislation. A number of economic, political, and social characteristics of the 676 cities in the United States with a 1960 population of over 25,000 have already been defined. Additional data are being gathered this year, principally concerning various aspects of the

industrial structures of cities. Chamber of Commerce reports, as well as state industrial directories giving the home addresses, the size of the firm, and other relevant information about local industry, have been obtained.

Two of the research assistants are engaged in classifying and coding these materials. The third assistant is gathering information on federal acts establishing vocational training programs. He plans to spend some time in Washington compiling information, first, on the existence of vocational training programs in the cities included in the study, and, second, on the methods and degree of their development, their scope, and other information relevant to an evaluation of their success.

The research investigators hope to have information on the existence of the training programs in each of the 676 cities by the end of the fall semester. A report on the first stage of the project is planned for the end of the spring semester.

C. Proposed Research

The following two studies are planned by the Center and are awaiting approval by the U.S. Office of Education for funding under the Vocational Education Act.

VOCATIONAL-TECHNICAL SCHOOLS AS SOURCES OF PERSONNEL FOR STATE AND LOCAL GOVERNMENT
Research Investigator: Edward V. Schten, Institute of Government Affairs and Political Science
Center Liaison: J. Kenneth Little

The Center staff has advised in the preparation of a proposal to the U.S. Office of Education for a study of the training and preparation of 13,000 government employees (municipal, county, and state) in eight Wisconsin cities. The cities are county seats of government and each has a vocational school. The study would survey (1) types and number of jobs, and job specifications, including educational requirements; (2) economic, social and educational characteristics of employees; and (3) vocational school offerings and enrollments and trends over the past 10 years.

AN EXPERIMENT IN CURRICULUM DEVELOPMENT FOR VOCATIONAL PROGRAMS IN MADISON HIGH SCHOOLS
Research Investigator: J. Kenneth Little (Center Liaison)

This is a five-year study being undertaken in cooperation with the State Superintendent of Public Instruction and the State Board of Vocational Education.

The plan includes:

(1) Job survey and analysis of the Madison community with reference to occupations open to graduates of Madison high schools and type and level of knowledge and skills required.

(2) Development of curriculum especially designed for youth who will either (a) seek jobs on graduation (or before), or (b) enter vocational or technical schools for advanced training.

(3) Determination of the characteristics of teachers which are necessary for effective instruction of these students.

(4) Testing and evaluation of the efficacy of special curricula, instructional procedures, and other educational adjustments which are developed.

Some elements of program flexibility which are being considered are a non-graded program, team teaching, independent curriculum with teachers free to experiment with curriculum content, teaching procedures, pupil evaluation; and a 15 to 1 pupil-teacher ratio.

It is hoped that this project can take advantage of the experience gained from pre-technology programs financed by the Ford Foundation in the high schools of the San Francisco Bay area.

The Center staff has assisted in the development of the broad outlines of this proposal, and will be asked to participate in parts of the operational aspects of the program, particularly its evaluation. A Center staff member may serve on the advising committee to the project.

V. GRADUATE STUDY AND INTERNSHIPS

A. Graduate Study in Vocational and Technical Education

One of the major objectives of the Center has been the encouragement and promotion of graduate study in the field of vocational and technical education. Research assistantships are currently available for activities in connection with the university-wide program of research on problems in this area. The activities include studies of the job market and occupational trends; analysis of job requirements and skills; worker mobility; human aptitudes, skills, and knowledge required by occupational groupings; development of instructional materials; curriculum planning; teaching practices; instructor qualifications; and other projects related to the general goals of strengthening programs of education, training, or counseling for youth and adults for employment or re-employment.

Research assistants may work toward graduate degrees in Agriculture, Economics, Education, Engineering, Commerce, Industrial Relations, Political Science, Psychology, Sociology, or in other fields which have pertinent relationship to important aspects of vocational-technical education.

Following is a list of the 15 graduate students currently supported by the Center, with a brief indication of their research or project activities:

Industrial Relations

Lachman Advani, Wayne Schwartzman, and Gershon Konditi are working as assistants to Professors Alford and Aiken in their project entitled "An Investigation of Community Variations in the Establishment of Vocational Training and Retraining Programs."

Karl Magnusen assists on Professor Filley's "Study of Joint Apprenticeship Committees in Wisconsin."

S. Muthuchidambaram is assistant to Professor Hansen in his "Analysis of Long-Range Projections of Occupational Trends."

Winston Tillery is working with Professors Somers and Cain, Project Associate McKechnie, and other research assistants on their "Studies of Vocational Retraining Programs for the Unemployed."

Barbara Klees is assisting Professors Somers and Perrone in "An Evaluation of the Use of Occupational Data in the Vocational Counseling of High School Students." She is financially supported, however, by a University fellowship.

Henry Kao assists Professors Samson and Somers, and Project Associate McKechnie in their "Analysis of the Procedures and Occupational Data Utilized in the Establishment of Courses in Vocational Education and Training."

Economics

Collette Moser is conducting her dissertation research under Professor Somers on "An Evaluation of Area Skills Surveys, Area Training Needs Surveys, and Job Vacancy Surveys in Forecasting Labor Demand for Purposes of Vocational Education and Training."

Education

Lee Hill assists in the development and maintenance of the information storage and retrieval system used by the Center's Reference Unit.

Donald Johnson is assisting Professor Perrone in the development of materials to aid high school counselors and coordinators in the selection of students for vocational programs.

Anila Bhatt is preparing abstracts of the Center's Reference Unit materials so that they may be coded and processed for information retrieval.

Judith Weix and Sennis Radtke are engaged in reading and indexing Reference Unit research materials for information retrieval. Mr. Radtke is also learning the operation of the Reference Unit's TERMATREX machine.

Agriculture

Gerald Matteson is conducting a study of "Vocational Training and Employment Opportunities for Rural Youth," under the direction of Professor Walter T. Bjoraker of the College of Agriculture.

B. The Internship Program

On the basis of discussions with vocational leaders in five states, the Center for Studies in Vocational and Technical Education has instituted, in addition to its graduate assistantship program, an internship program for the support and development of personnel in vocational and technical education. The program will serve three groups: doctoral candidates, master's candidates, and some who may not wish or qualify to pursue degree programs. Its primary feature is the inclusion of an eighteen-week internship in an appropriate cooperating agency as part of the total study program.

Length of Time in Program

The period of time for an individual to be in the program ranges from a minimum of two semesters to a maximum of two semesters and two summer sessions. Those continuing as students beyond this period will be absorbed into other support programs or become part of a funded research project.

Financing

Support for those selected for fellowships in Vocational and Technical Education is approximately equal to that of a top-level half-time project assistant, currently $265 per month. During the internship period the cooperating agency will pay that portion of the fellowship cost.

Coursework

The on-campus study will include a seminar associated with vocational and technical education plus appropriate courses selected in consultation with a faculty adviser to make up a full graduate load. Courses taken within an individual program may be drawn from any appropriate department or school of the

University. It is expected that they will be about equally divided between theoretical courses (discipline-oriented) and professional courses (people- and program-oriented).

Advising

The individual may select any one of professional staff members associated with the Center as a major advisor. The internships are to be very carefully planned experiences which will enhance the development of the individual and provide a sound background for advancement in his chosen area. The development and supervision of an internship sequence will be the responsibility of the Center staff.

Eligibility

Applications to the programs will be accepted from any part of the United States. Applications for fellowships will be reviewed by a committee of the Center, using the following criteria for selection:

(1) The applicant wishes to prepare for a higher position within the field of vocational and technical education.

(2) The applicant possesses a strong desire to improve his contribution to the field.

(3) The applicant possesses a background which shows evidence of competence in at least one of the basic areas of vocational and technical education, or through past performance has earned recognition in the field.

(4) The applicant, whether entering as a degree candidate or not, shows evidence of adequate ability to satisfactorily progress through a program of education and experience as a fellow.

About five fellows are to be accepted each year. Internships have been planned for every semester and summer session beginning the second semester of the program.

Publicity

Announcements of the program will be made by way of a brochure and letter to all state directors of vocational and technical education, all head teacher educators, U.S.O.E. professional staff, and to deans, department heads,

placement directors, and others in institutions of higher education. Within Wisconsin, announcements will be made to all directors of vocational and technical schools and to chief school officials.

VI. CONFERENCES

Another important function of the Center is the arrangement and sponsorship of conferences and workshops to bring together personnel in vocational and technical education and university faculty members interested and active in the field. Two such conferences have been held to date, and two are planned for the future.

A. Conferences Held

Conference on Occupational Data Requirements

As one of its first public functions, the Center for Studies in Vocational and Technical Education was asked by the U.S. Office of Education to co-sponsor a conference on "Occupational Data Requirements for Education Planning." The conference was held in Madison, Wisconsin, on June 15 and 16, 1965. A group of about thirty academic and government specialists in education and manpower analysis participated. The agenda included the presentation of five position papers, followed by panel discussions of the material covered. Summaries of the five papers are given below:

OCCUPATIONAL DATA REQUIREMENTS FOR EDUCATION PLANNING
by Rupert N. Evans, Dean of the College of Education, University of Illinois

Mr. Evans discussed the two types of planning for which occupational data are valuable--setting social priorities and school curricula--in terms of supply and demand. He pointed out that it is more useful to evaluate education's effect on job content, geographic mobility, occupational mobility, and hiring standards in terms of demand, because of the larger amount of information available. Since much of the information on supply is collected from voluntary sources, both greater consistency and greater detail--on potential supply and transferability of skills, for instance--are needed in this area. Evans

recommended the development of a measure for more precise evaluation of occu-

ional programs, perhaps a "value added by education" index.

A PRELIMINARY REPORT ON THE ROLE OF TECHNOLOGICAL FORECASTING IN THE DEVELOPMENT AND USE OF MANPOWER
by Donald A. Schon, Director of the Institute for Applied Technology, National Bureau of Standards, and Chairman of the Technological Forecasting Task Group

Donald Schon reported on the progress of the Technological Forecasting Task Group, which was established in February 1965 to study the actual and potential use of technological forecasting in the federal government, especially with regard to the development and use of manpower. The Task Group's preliminary recommendation is the establishment of local information centers to develop data on present job openings and municipal job trends; these might later be expanded to regional centers. Schon called for the development of means to measure the effectiveness of manpower development and adjustment activities before long-term national information can become useful.

EDUCATIONAL PLANNING IN WESTERN EUROPEAN COUNTRIES
by S. C. Kelley, Ohio State University

S. C. Kelley discussed the fifteen out of eighteen Western European countries that engage in educational planning, primarily through the Organization for Economic Cooperation and Development. The major problems encountered have been the difficulties experienced in determining (1) long-term manpower requirements; (2) the operational relationship between education and economic development; (3) an occupational classification system which takes proper cognizance of multiple job functions; and (4) the educational content represented by varying curricula definitions. He suggested that the major contribution of these countires lies in their attempt to adapt education to instrumental purposes in a democratic context.

OCCUPATION-EDUCATION RELATIONSHIPS: LESSONS FROM LESS DEVELOPED COUNTRIES
by William J. Platt, Director of Economic Development Research, Stanford Research Institute

Platt detailed the development and use of occupation-education information in less developed countries. He feels that U.S. researchers may benefit from the experience of these countries. Although they suffer from more austerity in educational capacity, are undertaking more deliberate shifts in economic structure, and suffer from a poorer data base, we may be guided by their successes and failures in our own efforts to help individuals and the community choose effective options in educational and training investments.

EVALUATION OF OCCUPATIONAL DATA AND THEIR USE IN EDUCATION PLANNING
by Sar A. Levitan of the W.E. Upjohn Institute for Employment Research

Mr. Levitan discussed the various types of occupational data currently issued by government agencies and appraised their usefulness for educational planning. He raised questions concerning the value of a number of current sources of occupational data, indicating that their reliability in projecting future demand was not such as to warrant the confidence of authorities planning education and training programs. Levitan offered suggestions for the improvement of statistical series on occupational projections in order to enhance their value in education planning.

The position papers were followed by panel discussions, conducted by Curtis Aller, William J. Bowen, Neil W. Chamberlain, Vladimir D. Chavrid, John T. Dunlop, Rashi Fein, Victor Fuchs, Lee Hansen, Fred Harbison, Myron L. Joseph, Jacob J. Kaufman, Garth L. Mangum, Edward Meade, Jr., Arnold Nemore, Herbert S. Parnes, Sol Swerdloff, M. H. Trytten, Burton Weisbrod, and Edwin Young.

In general, the discussants agreed that certain types of occupational data are required for educational planning; however, there was some disagreement

as to the reliability, and therefore as to the validity, of long-range occupational projections as a guide to educators. Experts attending the conference were unable to provide definitive data on the extent to which various types of occupational information are presently being utilized in the counseling of students or in the establishment of particular vocational programs and courses. Thus, one of the principal values of the conference from the standpoint of the Center's research program was to focus on the need for surveys of counselors and vocational educators in order to determine their use of occupational data. As is indicated in the section of this report on "Research in Progress," national research surveys are now being initiated along these lines.

In addition to the program speakers and panel discussants, other participants in the conference included J. Kenneth Little and Gerald G. Somers, Co-Directors of the Center; Robben Fleming, Chancellor of the University of Wisconsin; and David Bushnell and Sylvia McCollum of the U.S. Office of Education.

Regional Institute for Development of Leadership Abilities for Distributive Education

From June 14-18, 1965, a special Central Region Institute was conducted at the University of Wisconsin. It was designed by Central Region Distributive Education State Supervisors and Teacher Educators to develop leadership abilities within the total program of distributive education and to provide experienced distributive education personnal with an opportunity to develop and apply leadership capacity to new and varied responsibilities in distributive education.

Thirteen states sent representatives to participate in the Institute. Among the speakers were Walter A. Chjnowski, Supervisor, Wisconsin Business and Distributive Education; George Craft, Promotional Supervisor, Wisconsin Electric Power Company; Howard Ford, Loan Specialist, Small Business Adminis-

tration; Clarence L. Greiber, Director, Wisconsin State Board of Vocational and Adult Education; LeRoy Kelly, Personnel Director, Boston Stores; Edwin L. Nelson, Program Specialist, United States Office of Education; Harland E. Samson, Teacher Educator, University of Wisconsin; Ed Storey, Business and Industry Specialist, Small Business Administration; and Vernon Swenson, Chief, Wisconsin Business and Distributive Education.

B. Future Conferences

Conference on Follow-Up Studies

A conference to discuss the general problem of the follow-up of vocational school graduates is scheduled for November 18 and 19, 1965. Approximately twenty persons from various parts of the country who are engaged in some phase of follow-up research have been invited. It is anticipated that, as a result of the proceedings of this conference, the national follow-up survey now planned by the Center will gain considerably in the way of method and design, and will be able to avoid duplication of other studies.

Conference on Research Findings

A conference to discuss research findings in the field of vocational and technical education and training will be held in Madison under the auspices of the Center in June, 1966. Initial plans are already being made for this conference. The agenda is to include reports on research recently completed and continuing research funded by the U.S. Office of Education, the U.S. Department of Labor, the Ford Foundation, and others.

VII. PUBLICATIONS

The final stated objective of the Center's program is the dissemination of research findings in the field of vocational and technical education. During its first year, the Center has initiated a series of publications, including a professional journal, a periodic report of Center activities, a reprint series, and an assortment of publications describing in detail the acquisitions and procedures of the Reference Unit. In addition, the Center has published and will continue to publish brochures describing opportunities for graduate study and research and the various services and publications available at the Center.

A. The Journal of Human Resources

The Journal of Human Resources, which will begin publication in 1966 with financial aid from the Ford Foundation and the University of Wisconsin, will give primary emphasis to the role of education and training, at home and abroad, in enhancing productive skills, employment opportunities, and income. It will also include articles on more general manpower, health, and welfare policies, as they relate to the labor market and to economic and social development. The purpose of the Journal is to disseminate research results in these areas of study and to promote learned discussions of policy design and policy execution.

A Board of Editors has been selected from the faculty of the University: Merle L. Borrowman, Alan C. Filley, Robben W. Fleming, Archibald O. Haller, Lee Hansen, Burton W. Kreitlow, Robert J. Lampman, J. Kenneth Little, William H. Sewell, Theodore J. Shannon, James L. Stern, Burton Weisbrod, Kurt F. Wendt, and Gerald G. Somers, Chairman.

The Advisory Board, composed of distinguished scholars from other universities, institutions, and government agencies, includes: David Bushnell, U.S. Office of Education; John T. Dunlop, Harvard; Robert A. Ellis, Oregon; Rupert N. Evans, Illinois; Victor Fuchs, National Bureau of Economic Research; Edward J. Meade, Jr., The Ford Foundation; Ida C. Merriam, Social Security Administration; Herman P. Miller, U.S. Bureau of the Census; Alice M. Rivlin, The Brookings Institution; Howard Rosen, U.S. Office of Manpower, Automation and Training; Theodore W. Schultz, Chicago; Donald E. Super; Columbia; J. Chester Swanson, Berkeley; and H. Edwin Young, Maine.

The Journal staff is presently engaged in negotiations with a printer for publication of the first issue and in developing a mailing list for its initial subscription campaign.

B. The IRRI Report

In conjunction with the Industrial Relations Research Institute, the Center also publishes a periodic bulletin to report on current activities of both the Center and the Institute. The Report includes five sections: (1) "News from the Institute"--including notes on Center and Institute activities, faculty activities, conferences, etc.; (2) a short article or an abstract of a recent faculty publication or research finding; (3) a list of selected readings on some pertinent topic, with brief summaries of their content, drawn largely from publications available in the Center Reference Unit; (4) current research activities of faculty associated with both the Center and the Institute; and (5) recent Center and IRRI publications, listings of all faculty publications since the previous issue, and recent additions to the Center and IRRI Reprint Series.

The Report is distributed to a large mailing list, including the IRRI reprint subscribers, state vocational education personnel, interested federal

government personnel, researchers and educators in the field of vocational and technical education, IRRI alumni, employers, and future applicants to the IRRI and Vocational Studies programs.

The primary objective of the IRRI Report is to keep interested people informed of Center and IRRI activities, and to bring the Vocational Education and Industrial Relations programs to the attention of a greater number of potentially interested people.

C. The Reprint Series

The Industrial Relations Research Institute publishes a series of reprints of articles by University of Wisconsin faculty in the area of Industrial Relations. Between fifteen and twenty-five articles are reprinted each year and sent to a selected mailing list of 200-300 people upon request. Articles relating to the research of the Center for Studies in Vocational and Technical Education are included in this series with a special designation of "Vocational Studies." The reprint series provides an outlet for wider distribution of faculty publications and research findings in the field of vocational and technical education.

D. Reference Unit Publications

The Center's Reference Unit publishes a variety of reference materials, including periodic lists of recent acquisitions, annotated bibliographies, selected references on particular topics, and reports describing its data collections and the findings of associated research personnel. The acquisitions lists include citations of individual articles in periodicals and chapters in books, as well as pamphlets, reports, government publications, research reports, and occasional books acquired by the Reference Unit over a given period of time. Lists have so far been published for June, July, and August-October, 1965. These have been sent to a mailing list of approximately

500 people--mostly in academic professions. It is expected that acquisitions lists will be published regularly every two months. The Reference Unit is currently preparing a sizeable bibliography and list of selected references for publication in the near future.

E. Special Papers

As a supplement to the Reprint Series, the Center prepares and distributes unpublished research findings and miscellaneous reports under the label of "Special Papers." These are published on an occasional basis.